



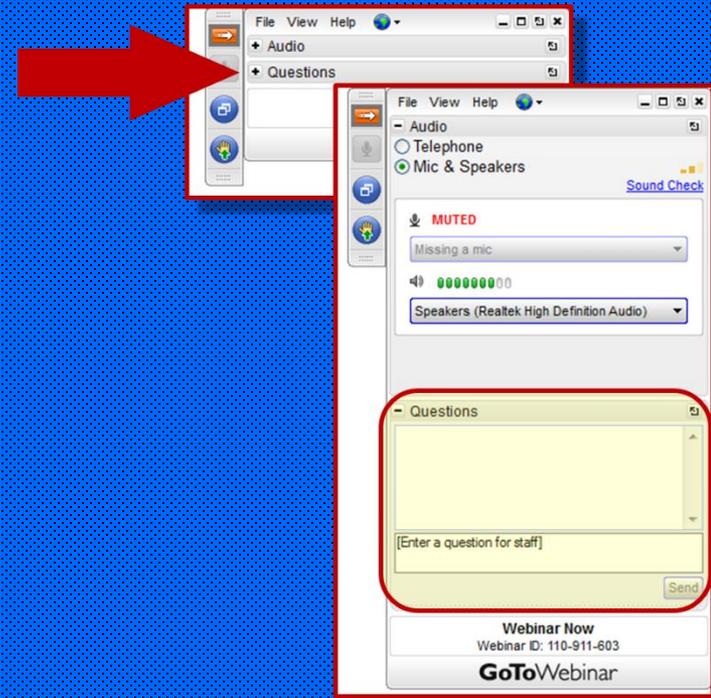
Florida Department of Transportation
State Safety Office
Crash Data Academy

Vulnerable Road Users
Part 1



How to ask a question:

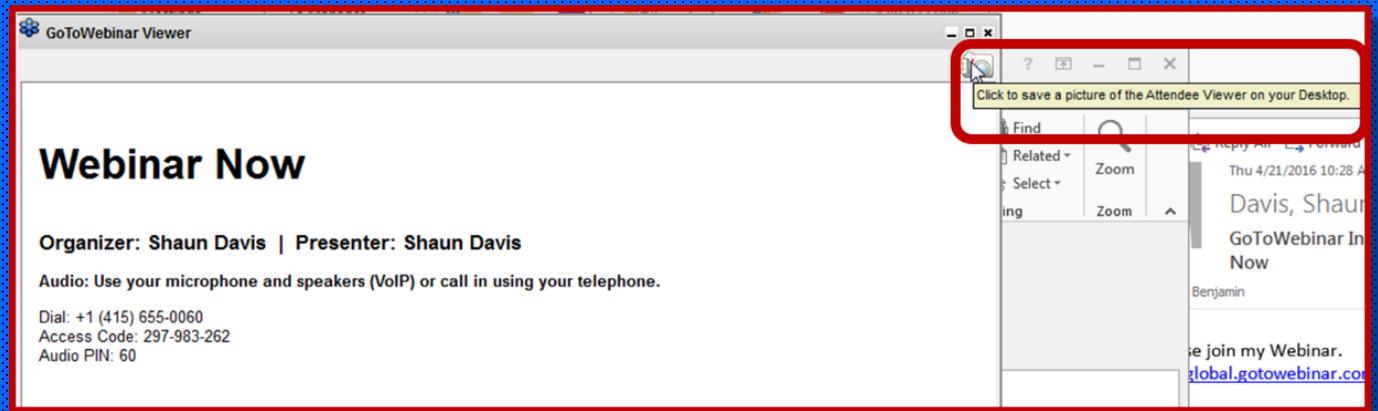
- Control panel on right side of screen
- Use question pane
 - Type questions and comments
 - Click send





How to capture the webinar window:

- Webinar viewer
 - Top, right corner
- Camera icon



Florida Department of Transportation
State Safety Office

CRASH DATA ACADEMY: VULNERABLE ROAD USERS – PART I



Presented By:
Trenda McPherson
State Bicycle/Pedestrian Safety Program Manager

Introductions



Presentation by:

Mrs. Trenda McPherson
Florida Department of Transportation
State Bicycle Pedestrian Safety Program Manager
www.alerttodayflorida.com

Who is considered a vulnerable road user?

Florida Statute 316.027(1)(b) “Vulnerable road user” means:

1. A pedestrian, including a person actually engaged in work upon a highway, or in work upon utility facilities along a highway, or engaged in the provision of emergency services within the right-of-way;
2. A person operating a bicycle, motorcycle, scooter, or moped lawfully on the roadway;
3. A person riding an animal; or
4. A person lawfully operating on a public right-of-way, crosswalk, or shoulder of the roadway:
 - a. A farm tractor or similar vehicle designed primarily for farm use;
 - b. A skateboard, roller skates, or in-line skates;
 - c. A horse-drawn carriage;
 - d. An electric personal assistive mobility device; or
 - e. A wheelchair.

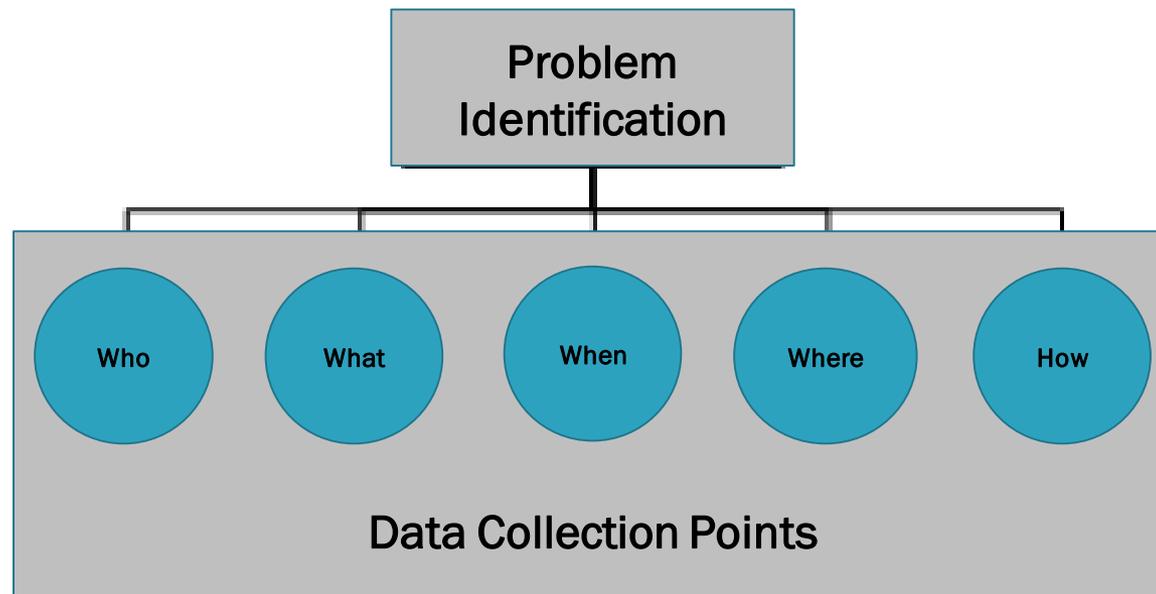


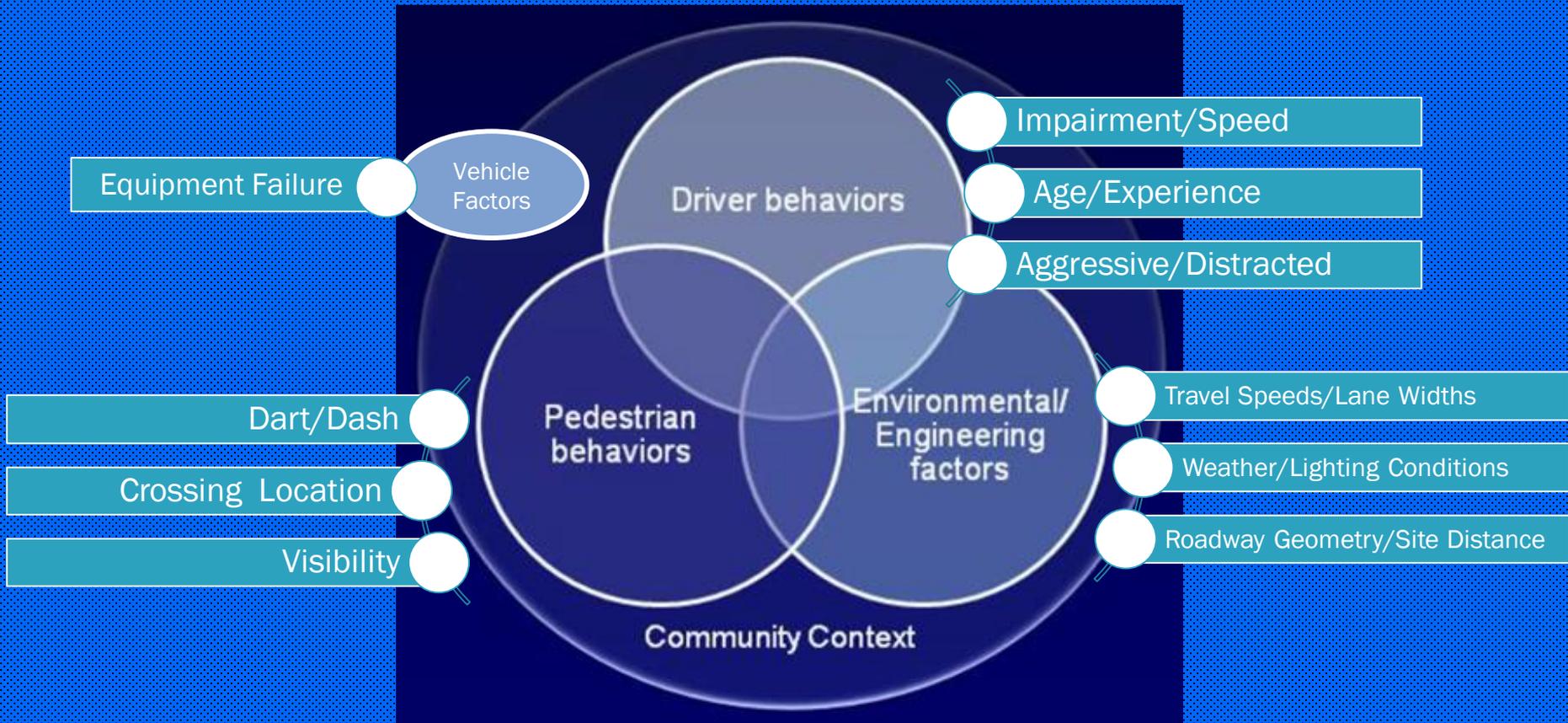
- ❖ Problem Identification Process
- ❖ Qualities of Good Data
- ❖ Data Types
 - ❖ Florida Crash Report Information
- ❖ Data Sources
- ❖ Data Challenges
- ❖ Data Analysis



Problem Identification is the process of analyzing crash data and other pertinent information to isolate specific facts about traffic crashes that can be used to select the appropriate countermeasures and crash reduction strategies.

Identify Problem





From Baselines to Outcomes: Quality Data is the KEY to Success





Data Types



VEHICLE # 72		Check if Commercial 73		REPORTING AGENCY CASE NUMBER 2		VEHICLE CASE REPORT NUMBER 1	
1 Vehicle - 1 Driver		74		75		76	
2 Vehicle - 1 Driver		77		78		79	
3 Vehicle - 2 Drivers		80		81		82	
4 Vehicle - 3 Drivers		83		84		85	
5 Vehicle - 4 Drivers		86		87		88	
6 Vehicle - 5 Drivers		89		90		91	
7 Vehicle - 6 Drivers		92		93		94	
8 Vehicle - 7 Drivers		95		96		97	
9 Vehicle - 8 Drivers		98		99		100	
10 Vehicle - 9 Drivers		101		102		103	
11 Vehicle - 10 Drivers		104		105		106	
12 Vehicle - 11 Drivers		107		108		109	
13 Vehicle - 12 Drivers		110		111		112	
14 Vehicle - 13 Drivers		113		114		115	
15 Vehicle - 14 Drivers		116		117		118	
16 Vehicle - 15 Drivers		119		120		121	
17 Vehicle - 16 Drivers		122		123		124	
18 Vehicle - 17 Drivers		125		126		127	
19 Vehicle - 18 Drivers		128		129		130	
20 Vehicle - 19 Drivers		131		132		133	
21 Vehicle - 20 Drivers		134		135		136	
22 Vehicle - 21 Drivers		137		138		139	
23 Vehicle - 22 Drivers		140		141		142	
24 Vehicle - 23 Drivers		143		144		145	
25 Vehicle - 24 Drivers		146		147		148	
26 Vehicle - 25 Drivers		149		150		151	
27 Vehicle - 26 Drivers		152		153		154	
28 Vehicle - 27 Drivers		155		156		157	
29 Vehicle - 28 Drivers		158		159		160	
30 Vehicle - 29 Drivers		161		162		163	
31 Vehicle - 30 Drivers		164		165		166	
32 Vehicle - 31 Drivers		167		168		169	
33 Vehicle - 32 Drivers		170		171		172	
34 Vehicle - 33 Drivers		173		174		175	
35 Vehicle - 34 Drivers		176		177		178	
36 Vehicle - 35 Drivers		179		180		181	
37 Vehicle - 36 Drivers		182		183		184	
38 Vehicle - 37 Drivers		185		186		187	
39 Vehicle - 38 Drivers		188		189		190	
40 Vehicle - 39 Drivers		191		192		193	
41 Vehicle - 40 Drivers		194		195		196	
42 Vehicle - 41 Drivers		197		198		199	
43 Vehicle - 42 Drivers		200		201		202	
44 Vehicle - 43 Drivers		203		204		205	
45 Vehicle - 44 Drivers		206		207		208	
46 Vehicle - 45 Drivers		209		210		211	
47 Vehicle - 46 Drivers		212		213		214	
48 Vehicle - 47 Drivers		215		216		217	
49 Vehicle - 48 Drivers		218		219		220	
50 Vehicle - 49 Drivers		221		222		223	
51 Vehicle - 50 Drivers		224		225		226	
52 Vehicle - 51 Drivers		227		228		229	
53 Vehicle - 52 Drivers		230		231		232	
54 Vehicle - 53 Drivers		233		234		235	
55 Vehicle - 54 Drivers		236		237		238	
56 Vehicle - 55 Drivers		239		240		241	
57 Vehicle - 56 Drivers		242		243		244	
58 Vehicle - 57 Drivers		245		246		247	
59 Vehicle - 58 Drivers		248		249		250	
60 Vehicle - 59 Drivers		251		252		253	
61 Vehicle - 60 Drivers		254		255		256	
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65 Vehicle - 64 Drivers		266		267		268	
66 Vehicle - 65 Drivers		269		270		271	
67 Vehicle - 66 Drivers		272		273		274	
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74 Vehicle - 73 Drivers		293		294		295	
75 Vehicle - 74 Drivers		296		297		298	
76 Vehicle - 75 Drivers		299		300		301	
77 Vehicle - 76 Drivers		302		303		304	
78 Vehicle - 77 Drivers		305		306		307	
79 Vehicle - 78 Drivers		308		309		310	
80 Vehicle - 79 Drivers		311		312		313	
81 Vehicle - 80 Drivers		314		315		316	
82 Vehicle - 81 Drivers		317		318		319	
83 Vehicle - 82 Drivers		320		321		322	
84 Vehicle - 83 Drivers		323		324		325	
85 Vehicle - 84 Drivers		326		327		328	
86 Vehicle - 85 Drivers		329		330		331	
87 Vehicle - 86 Drivers		332		333		334	
88 Vehicle - 87 Drivers		335		336		337	
89 Vehicle - 88 Drivers		338		339		340	
90 Vehicle - 89 Drivers		341		342		343	
91 Vehicle - 90 Drivers		344		345		346	
92 Vehicle - 91 Drivers		347		348		349	
93 Vehicle - 92 Drivers		350		351		352	
94 Vehicle - 93 Drivers		353		354		355	
95 Vehicle - 94 Drivers		356		357		358	
96 Vehicle - 95 Drivers		359		360		361	
97 Vehicle - 96 Drivers		362		363		364	
98 Vehicle - 97 Drivers		365		366		367	
99 Vehicle - 98 Drivers		368		369		370	
100 Vehicle - 99 Drivers		371		372		373	
101 Vehicle - 100 Drivers		374		375		376	
102 Vehicle - 101 Drivers		377		378		379	
103 Vehicle - 102 Drivers		380		381		382	
104 Vehicle - 103 Drivers		383		384		385	
105 Vehicle - 104 Drivers		386		387		388	
106 Vehicle - 105 Drivers		389		390		391	
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109 Vehicle - 108 Drivers		398		399		400	
110 Vehicle - 109 Drivers		401		402		403	
111 Vehicle - 110 Drivers		404		405		406	
112 Vehicle - 111 Drivers		407		408		409	
113 Vehicle - 112 Drivers		410		411		412	
114 Vehicle - 113 Drivers		413		414		415	
115 Vehicle - 114 Drivers		416		417		418	
116 Vehicle - 115 Drivers		419		420		421	
117 Vehicle - 116 Drivers		422		423		424	
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124 Vehicle - 123 Drivers		443		444		445	
125 Vehicle - 124 Drivers		446		447		448	
126 Vehicle - 125 Drivers		449		450		451	
127 Vehicle - 126 Drivers		452		453		454	
128 Vehicle - 127 Drivers		455		456		457	
129 Vehicle - 128 Drivers		458		459		460	
130 Vehicle - 129 Drivers		461		462		463	
131 Vehicle - 130 Drivers		464		465		466	
132 Vehicle - 131 Drivers		467		468		469	
133 Vehicle - 132 Drivers		470		471		472	
134 Vehicle - 133 Drivers		473		474		475	
135 Vehicle - 134 Drivers		476		477		478	
136 Vehicle - 135 Drivers		479		480		481	
137 Vehicle - 136 Drivers		482		483		484	
138 Vehicle - 137 Drivers		485		486		487	
139 Vehicle - 138 Drivers		488		489		490	
140 Vehicle - 139 Drivers		491		492		493	
141 Vehicle - 140 Drivers		494		495		496	
142 Vehicle - 141 Drivers		497		498		499	
143 Vehicle - 142 Drivers		500		501		502	
144 Vehicle - 143 Drivers		503		504		505	
145 Vehicle - 144 Drivers		506		507		508	
146 Vehicle - 145 Drivers		509		510		511	
147 Vehicle - 146 Drivers		512		513		514	
148 Vehicle - 147 Drivers		515		516		517	
149 Vehicle - 148 Drivers		518		519		520	
150 Vehicle - 149 Drivers		521		522		523	
151 Vehicle - 150 Drivers		524		525		526	
152 Vehicle - 151 Drivers		527		528		529	
153 Vehicle - 152 Drivers		530		531		532	
154 Vehicle - 153 Drivers		533		534		535	
155 Vehicle - 154 Drivers		536		537		538	
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160 Vehicle - 159 Drivers		551		552		553	
161 Vehicle - 160 Drivers		554		555		556	
162 Vehicle - 161 Drivers		557		558		559	
163 Vehicle - 162 Drivers		560		561		562	
164 Vehicle - 163 Drivers		563		564		565	
165 Vehicle - 164 Drivers		566		567		568	
166 Vehicle - 165 Drivers		569		570		571	
167 Vehicle - 166 Drivers		572		573		574	
168 Vehicle - 167 Drivers		575		576		577	
169 Vehicle - 168 Drivers		578		579		580	
170 Vehicle - 169 Drivers		581		582		583	
171 Vehicle - 170 Drivers		584		585		586	
172 Vehicle - 171 Drivers		587		588		589	
173 Vehicle - 172 Drivers		590		591		592	
174 Vehicle - 173 Drivers		593		594		595	
175 Vehicle - 174 Drivers		596		597		598	
176 Vehicle - 175 Drivers		599		600		601	
177 Vehicle - 176 Drivers		602		603		604	
178 Vehicle - 177 Drivers		605		606		607	
179 Vehicle - 178 Drivers		608		609		610	
180 Vehicle - 179 Drivers		611		612		613	
181 Vehicle - 180 Drivers		614		615		616	
182 Vehicle - 181 Drivers		617		618		619	
183 Vehicle - 182 Drivers		620		621		622	
184 Vehicle - 183 Drivers		623		624		625	
185 Vehicle - 184 Drivers		626		627		628	
186 Vehicle - 185 Drivers		629		630		631	
187 Vehicle - 186 Drivers		632		633		634	
188 Vehicle - 187 Drivers		635		636		637	
189 Vehicle - 188 Drivers		638		639		640	
190 Vehicle - 189 Drivers		641		642		643	
191 Vehicle - 190 Drivers		644		645		646	
192 Vehicle - 191 Drivers		647		648		649	
193 Vehicle - 192 Drivers		650		651		652	
194 Vehicle - 193 Drivers		653		654		655	
195 Vehicle - 194 Drivers		656		657		658	
196 Vehicle - 195 Drivers		659		660		661	
197 Vehicle - 196 Drivers		662		663		664	
198 Vehicle - 197 Drivers		665		666		667	
199 Vehicle - 198 Drivers		668		669		670	
200 Vehicle - 199 Drivers		6					

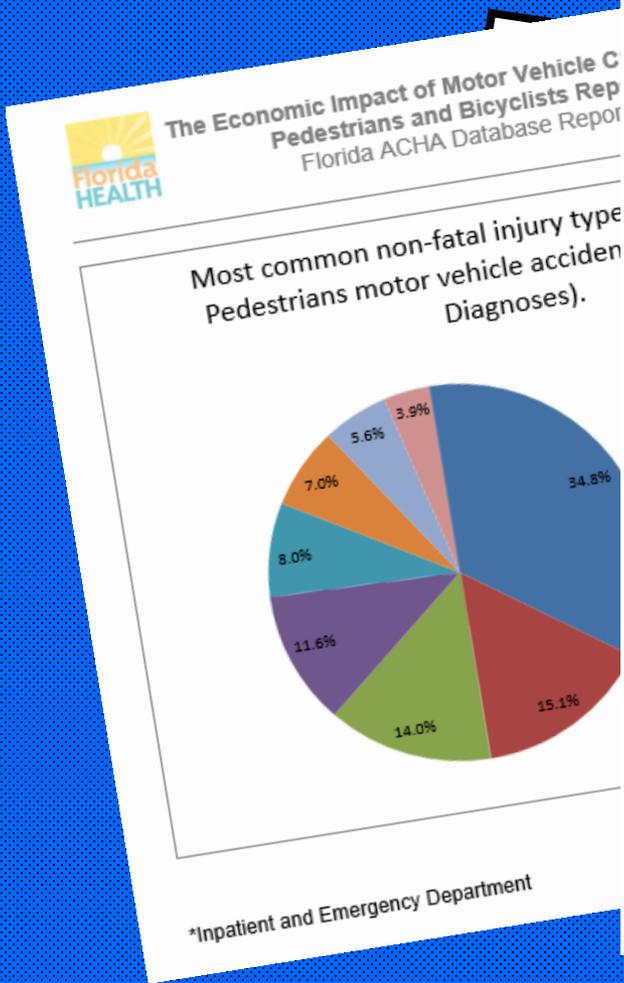


Data Types



Crash Specific Data:
What other data to "tells the s

crash?



NARRATIVE		REPORTING AGENCY/AGENCY NUMBER	HEMVY CRASH REPORT NUMBER
306		2	1
ADDITIONAL PASSENGERS			
VEHICLE #	PASS #	NAME	DATE OF BIRTH
167	165	106,169,170,171	178
			IN
			SEX
			LOC: S
			P
			O
			EJECT
			HU
			EP
			ABD
			RS
CURRENT ADDRESS (Number and Street)		CITY & STATE	
SOURCE OF TRANSPORT TO MEDICAL FACILITY		EMERGENCY NAME OF ID	EMERGENCY NUMBER
<input type="checkbox"/> 1 Not Reported <input type="checkbox"/> 2 EMS - State Enforcement <input type="checkbox"/> 3 Other - Specify in Narrative <input type="checkbox"/> 4 Unknown			
VEHICLE #	PASS #	NAME	DATE OF BIRTH
			IN
			SEX
			LOC: S
			P
			O
			EJECT
			HU
			EP
			ABD
			RS
CURRENT ADDRESS (Number and Street)		CITY & STATE	
SOURCE OF TRANSPORT TO MEDICAL FACILITY		EMERGENCY NAME OF ID	EMERGENCY NUMBER
<input type="checkbox"/> 1 Not Reported <input type="checkbox"/> 2 EMS - State Enforcement <input type="checkbox"/> 3 Other - Specify in Narrative <input type="checkbox"/> 4 Unknown			
ADDITIONAL VIOLATIONS			
PERSON #	NAME OF VIOLATOR	FL STATUTE NUMBER	CHARGE
PERSON #	NAME OF VIOLATOR	FL STATUTE NUMBER	CHARGE
REPORTING OFFICER			
ID/BADGE NUMBER	RANK & NAME	DEPARTMENT	HRP
307	306 309, 310, 311, 312	313	314
			SO
			PD
			OTHER

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Data Types



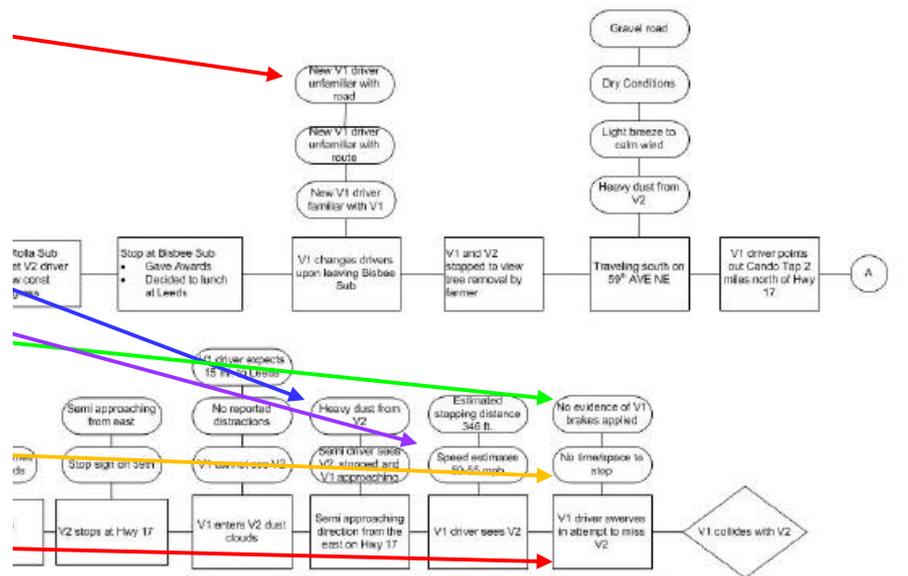
behavior or other human factors that

Crash Investigation Report Example

PERSON # 165		REPORTING AGENCY CASE NUMBER 2		HSMV CRASH REPORT NUMBER 1	
1 Driver 2 Non-Motorist 3 Passenger 166	VEHICLE # 167	NAME 168, 169, 170, 171	PHONE NUMBER 172	Check # 173 Recommended Driver Release	
CURRENT ADDRESS (Number and Street) 174		CITY & STATE 175 176		ZIP CODE 177	
DATE OF BIRTH 178	SEX 179	DRIVER LICENSE NUMBER 180	STATE 181	EXPIRES 182	INSURANCE (INS) 183 1 None 2 Possible 3 Non-Insurance 4 Insurance 5 Non-Insurance (30 days) 6 Non-Traffic Liability
DL Type 1 A 2 B 3 C 4 Chauffeur 5 Operator 6 Oper - Rest 7 None	Required Endorsements 1 Yes 2 No 3 No Req. Endorsement	1st 1 No Contributing Action 2 Contrib. MV in Case Bus or Light Int. Motorist 3 Contrib. in Case of Non-Way 4 Improper Backing 5 Improper Turn 6 Followed Too Close 7 Ran Red Light 8 Drove Too Fast for Conditions 9 Ran Stop Sign 10 Improper Pass. Sign 11 Exceeded Posted Speed 12 Wrong Side of Roadway 13 Failed to Keep in Proper Lane	2nd 26 Ran Off Roadway 27 Obstructed Other Traffic Sign 28 Obstructed Other Roadway 29 Obstructed/Over-Sized Sign 30 Warned or Avoided: Due to Wind, Slipping Surface, MV, Object, Non-Motorist in Roadway, etc. 31 Overtaken by Motorist 32 Exceeded Posted Speed 33 Failed to Keep in Proper Lane 34 Other Contributing Action	3rd 1 Aggravately Injured 2 Aggravately Injured 3 Injured/Resuscitated 4 Severe Injury, Backout 5 Physically Impaired 6 Emotional Distress, Injury, Disturbed, etc. 7 Under the Influence of Medication/Drugs/Alcohol 8 Unknown	Condition At Time of Crash 157
Driver Distracted By 1 No Distraction 2 Electronic Communication Device (cell phone, etc.) 3 Other Electronic Device 4 Texting 5 Inattentive 6 Unknown	4 Other Inside the Vehicle (in plain in narrative) 5 Inattentive Distraction (in plain in narrative) 6 Texting 7 Other (in plain in narrative) 8 Unknown	Driver Vision Obstructions 1 Vision Not Obscured 2 Instrument Weather 3 Paint/Obstruction on Road 4 Tires/Obstruction	5 Smoke 6 Building/Fixed Object 7 Light/Signage 8 Other (in plain in narrative)	DRIVER OR PASSENGER	
Motor Vehicle Seating Position: Seat 190 Row 191 Other 192 1 Left 2 Middle 3 Right 4 Other 5 In plain in narrative 6 Unknown 7 Unknown		LOCATION: SIAT FOW OTHER 1 SIAT 2 FOW 3 OTHER 4 Unknown	DRIVER PASSENGER 195	Restraint Systems (RS) 1 Not Applicable (non-motorist) 2 None Used - Motor Vehicle Occupant 3 No Seat Belt Used 4 Shoulder Air Only Used 5 Shoulder Air Only Used 6 Restraint Used - Type Unknown 7 Child Restraint System - Forward Facing 8 Child Restraint System - Rear Facing 9 Booster Seat 10 Child Restraint Type Unknown 11 Other (in plain in narrative)	
Non-Motorist Description 1 Pedestrian 2 Other Pedestrian (wheelchair, person in building, stroller, person in cart, etc.) 3 Bicyclist 4 Other Cyclist 5 Occupant of Motor Vehicle Not in Transport (in plain in narrative) 6 Occupant of Non-Motor Vehicle 7 Unknown Type of Non-Motorist		Non-Motorist Location At Time of Crash 1 Intersection - Marked Crosswalk 2 Intersection - Unmarked Crosswalk 3 Intersection - Other 4 Marked - Marked Crosswalk 5 Thruway - Other Location 6 Bicycle Lane 7 Unknown	Non-Motorist Actions/Circumstances 1 No Improper Action 2 Refused to Yield Right-of-Way 3 Failed to Yield Right-of-Way 4 Failed to Yield Right-of-Way 5 Failed to Yield Right-of-Way 6 Failed to Yield Right-of-Way 7 Failed to Yield Right-of-Way 8 Failed to Yield Right-of-Way 9 Failed to Yield Right-of-Way 10 Failed to Yield Right-of-Way 11 Failed to Yield Right-of-Way 12 Failed to Yield Right-of-Way 13 Failed to Yield Right-of-Way 14 Failed to Yield Right-of-Way 15 Failed to Yield Right-of-Way 16 Failed to Yield Right-of-Way 17 Failed to Yield Right-of-Way 18 Failed to Yield Right-of-Way 19 Failed to Yield Right-of-Way 20 Failed to Yield Right-of-Way 21 Failed to Yield Right-of-Way 22 Unknown	Action Prior to Crash 1 Crossing Roadway 2 Waiting to Cross Roadway 3 Waiting/Cycling Along Roadway with Traffic (in or adjacent to travel lane) 4 Working/Cycling Along Roadway Against Traffic (in or adjacent to travel lane) 5 Unknown	
Safety Equipment 1 None 2 Helmet 3 Protective Pads Used (Shoulder, Knee, Elbow, etc.) 4 Reflective Clothing (jacket, vest, etc.) 5 Unknown		Lighting 1 Not Applicable 2 Other (in plain in narrative) 3 Unknown	201	202	
SUSPECTED 203 ALCOHOL TESTED: 1 Not Tested 2 No 3 Yes 4 Unknown		ALCOHOL TEST TYPE: 1 Blood 2 Urine 3 Other 4 Unknown	ALCOHOL TEST RESULT: 1 Not Tested 2 Not Tested 3 Tested 4 Unknown	DRUG TESTED: 1 Not Tested 2 Not Tested 3 Tested 4 Unknown	
SOURCE OF TRANSPORT TO MEDICAL FACILITY 1 Not Reported 2 EMS 3 Law Enforcement		EMS AGENCY NAME OF ID 302	EMS FUN NUMBER 304	MEDICAL FACILITY TRANSPORTED TO 305	
ADDITIONAL PASSENGERS					
VEHICLE # 167	PASS # 165	NAME 168, 169, 170, 171	DATE OF BIRTH 178	SEX 179	DOB 183 184 185 186 187 188 189 190 191 192
CURRENT ADDRESS (Number and Street) 174		CITY & STATE 175 176		ZIP CODE 177	
SOURCE OF TRANSPORT TO MEDICAL FACILITY 1 Not Reported 2 EMS 3 Law Enforcement 4 Other (in plain in narrative)		EMS AGENCY NAME OF ID 302	EMS FUN NUMBER 304	MEDICAL FACILITY TRANSPORTED TO 305	
ADDITIONAL PASSENGERS					
VEHICLE # 167	PASS # 165	NAME 168, 169, 170, 171	DATE OF BIRTH 178	SEX 179	DOB 183 184 185 186 187 188 189 190 191 192
CURRENT ADDRESS (Number and Street) 174		CITY & STATE 175 176		ZIP CODE 177	
SOURCE OF TRANSPORT TO MEDICAL FACILITY 1 Not Reported 2 EMS 3 Law Enforcement 4 Other (in plain in narrative)		EMS AGENCY NAME OF ID 302	EMS FUN NUMBER 304	MEDICAL FACILITY TRANSPORTED TO 305	

Causal Factors Charting Fatality Accident near Cando N.D.-7/1/08

Type A Accident Report



Where do you find information about pedestrian and bicyclist “incidents” where there were no motor vehicles involved?

Local enforcement agencies compile and collect incident reports in house.



Clearwater Memorial Causeway Fatal/Severe Injury Bicycle & Pedestrian Crashes (2005-2013*)

Crash date	DHSMV Report #	CPD Incident Report #	Crash description & severity
1/15/2013	n/a	CW13-7088	Single vehicle bicycle - ran off sidewalk (severe injury)
1/15/2013	n/a	CW13-7091	Bicycle wobbling, struck pedestrian (severe injury)
7/28/2012	n/a	CW12-102288	Single vehicle bicycle - fell off bicycle (fatal)
5/1/2012	n/a	CW12-56886	Single vehicle bicycle - fell off bicycle (fatal)
7/4/2010	n/a	CW10-76632	Two people on one bicycle struck a pedestrian (fatal)
8/25/2005	71601755	CW05-21806	Single vehicle bicycle - ran off sidewalk (fatal)

Emergency Room and Trauma Center data will also reflect injuries that may not have been traffic crash related.



Data Types



Is information available about the economic impact of pedestrian and bicyclist injuries, injury types, and behavioral risk factors?

<http://www.floridahealth.gov/statistics-and-data/index.html>

<http://www.floridahealth.gov/statistics-and-data/ems-data-systems/index.html>

<http://www.floridahealth.gov/certificates/trauma-registry/index.html>

<http://www.floridahealth.gov/certificates/trauma-registry/index.html>

http://www.floridahealth.gov/certificates/trauma-registry/_documents/2016-ngtr-dd.pdf



An innovative strategy to collecting pedestrian and bicyclist specific data.

<https://www.strava.com>

Strava works with nearly every smartphone, GPS device and paired sensor, such as heart rate monitors and power meters. But only Premium unlocks the power of all that data for deep post-activity analysis, including exclusive features like Suffer Score and Race Analysis.



Strava GPS Cycling and Running App

Strava lets you track your running and riding with GPS, join Challenges, share photos from your activities, and follow friends.





Data Types



10:02 AM on Saturday, September 10, 2016
Morning Ride

12.5mi Distance **1:08:13** Moving Time **0ft** Elevation

68W Estimated Avg Power **279kJ** Energy Output

	Avg	Max
Speed	11.0mi/h	13.9mi/h
Calories	311	
Elapsed Time	1:48:46	

Device: [Strava Android App](#) Bike: —

[Show Less](#)

TOP RESULTS

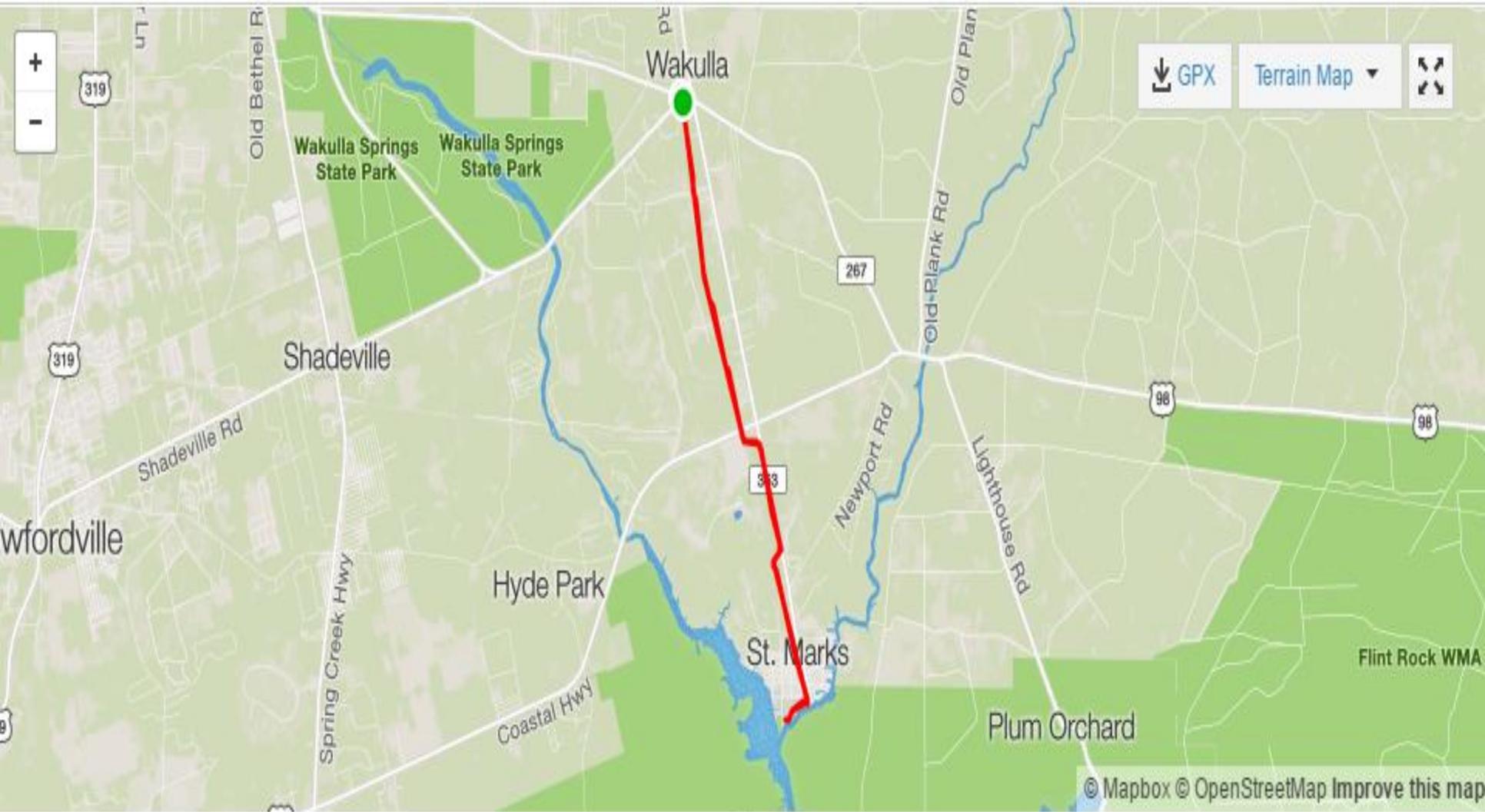
2nd fastest time on [Tallahassee-St. Marks Trail: Coastal highway to St. Marks](#) (13:20)

Segments [Learn more about segments](#)

Name	Time	Speed	Power	VAM	HR
★ Tallahassee-St. Marks Trail: Bloxham Cutoff Rd - Coastal Hwy 2.8mi 6ft 0%	14:36	11.5mi/h	73W		—
★ 2 Tallahassee-St. Marks Trail: Coastal highway to St. Marks 2.6mi 0ft 0%	13:20	11.8mi/h	77W		—

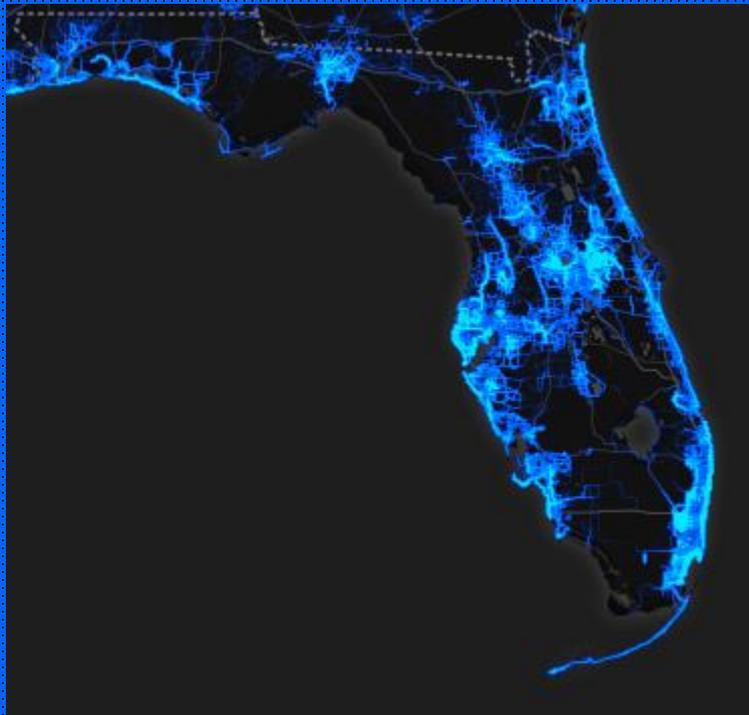


Data Types

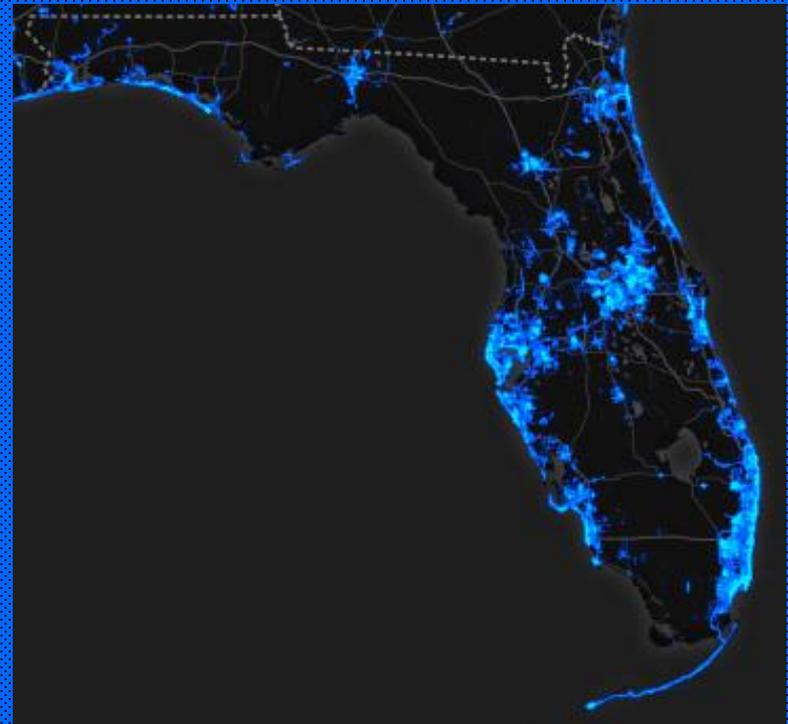


Strava Global Heat Map 2015

Bike



Run



STRAVA | METRO

Success Stories

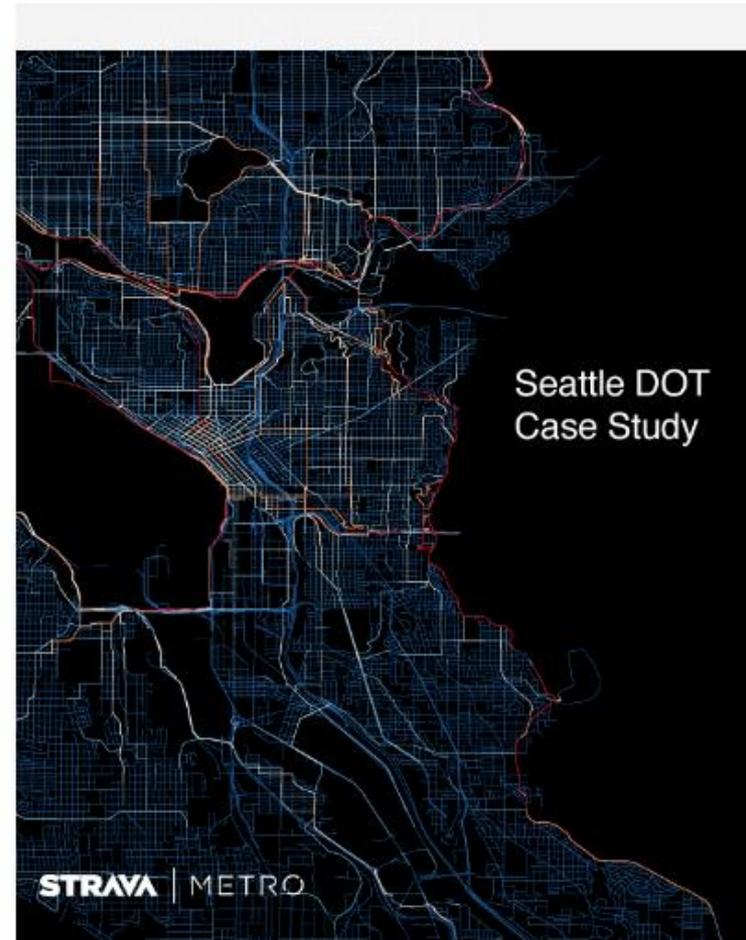
Over 70 cities and organizations around the world are using Strava Metro to improve their bicycle and pedestrian infrastructure. Here are a few inspiring examples of groups partnering with Metro to answer a specific question or make a direct impact on transportation in their area.

SEATTLE

QUEENSLAND

Seattle Department of Transportation

In 2015, Seattle added Strava Metro data to its portfolio of traditional bicyclist and traffic data (surveys and bike counts). By combining these data sources, the city has been able to gain new insights on preferred bicyclist routes and characteristics of dangerous intersections.

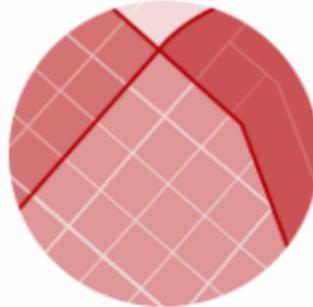


Strava Data Sets



Streets

Minute-by-minute activity counts at your entire network



Origin / Destination

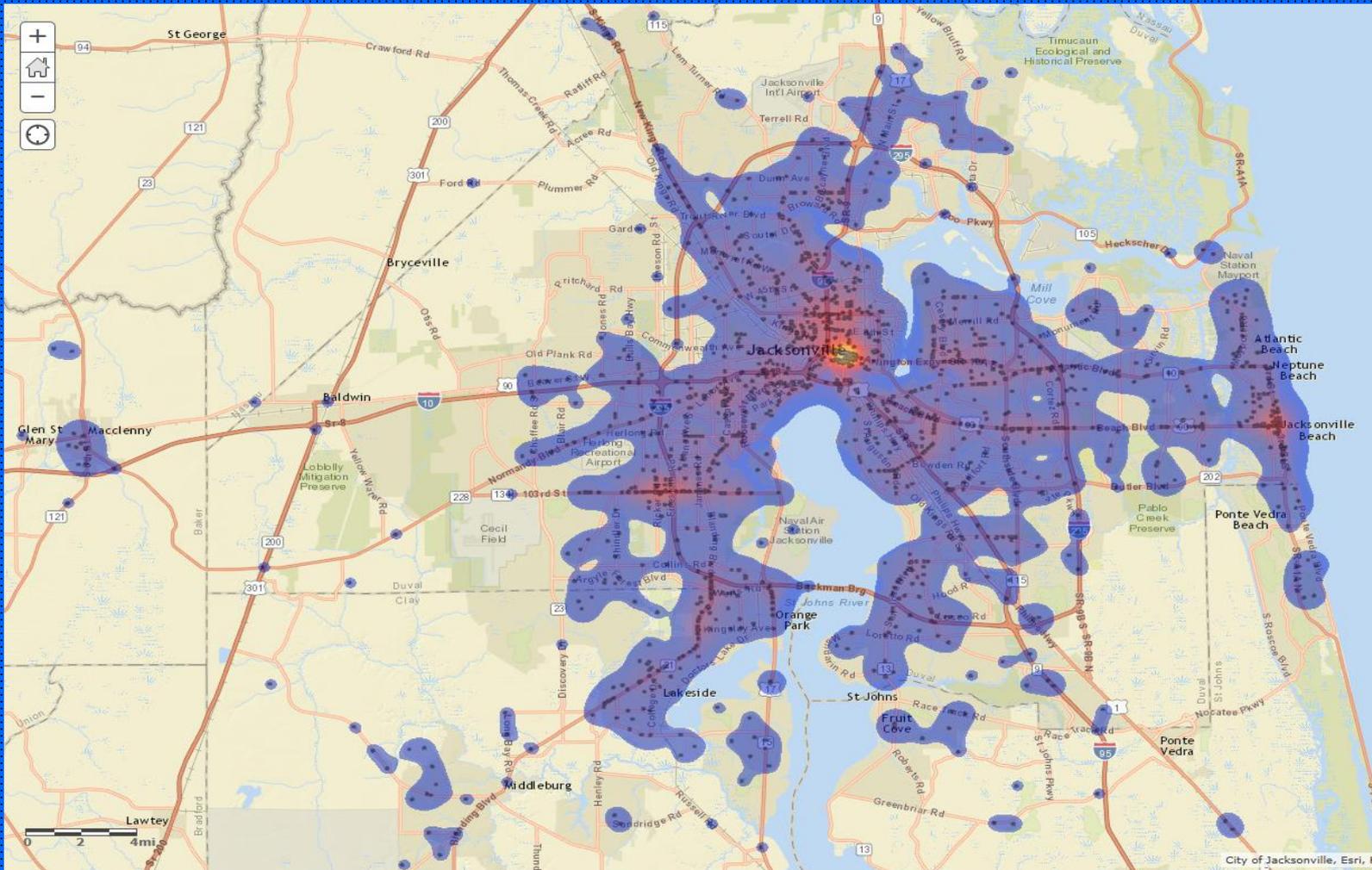
Understand activity starting and ending points, by region



Intersections

Activity counts and wait times at every intersection

What is “other pertinent data” and how is it relevant to Vulnerable Road Users?



Duval County Pedestrian
Crash Clusters 2009-2015

Federal Data Sources

- Fatality Analysis Reporting System (FARS)
- National Household Travel Survey
- National Survey of Pedestrian and Bicyclist Attitudes and Behaviors (NHTSA)
- Not-in-Traffic Surveillance (NHTSA)
- Census/Demographic Data

State Data Sources

- Crash Reports/GIS Maps
- Hospital/Emergency Department Data
- Vital Statistics
- Economic Impact Data
- Vehicle Miles Traveled/Driver Demographics

Local Data Sources

- Citation Reports
- Public Opinion or Observational Surveys
- Zoning Data
- Transit Data



Impediments to Data Collection

- Data Ownership
- Inability to link files
- Not Enough Data
- Too Much Data
- Challenges Collecting and Compiling Exposure Data

Impediments to Data Analysis

- Crash Report Contains Inaccurate or Insufficient Data
- Data Quality
- Lack of Demographic Data
- Lack of Uniform Crash Reporting Criteria
- Inconsistent Data Definitions

BIG DATA, BIG CHALLENGES

IF THERE'S ONE ASSET THE U.S. GOVERNMENT HAS IN ABUNDANCE, IT'S DATA.

But a fight for expertise is hindering both the public and private sectors when it comes to managing and mining information.



Data Analysis

Data analysis is the process of reviewing raw data to find the trends that indicate a problem.



Quantitative research is explaining phenomena by collecting numerical data that are analyzed using mathematically based methods (in particular statistics).

Qualitative research seeks to answer questions about why and how people behave in the way that they do. It provides in-depth information about human behaviors resulting in traffic crashes.



References



Fatality Analysis Reporting Systems (FARS)

The FARS database provides data on highway fatalities resulting from all motor vehicle traffic crashes in the United States every year. All FARS data on fatal motor vehicle traffic crashes is gathered from the State's own source documents and is coded on standard FARS forms.

<http://www-fars.nhtsa.dot.gov/Main/index.aspx>

State Traffic Safety Information (STSI)

The State Highway Traffic Information website combines FARS data with geographic information system (GIS) data and Google Earth technology.

<http://www-nrd.nhtsa.dot.gov/departments/nrd-30/nrsa/STSI/USA%20WEB%20REPORT.HTM>

National Household Travel Survey (NHTS)

The National Household Travel Survey (NHTS) is the source of national data on the travel behavior of the American public. The dataset allows analysis of daily travel by all modes and includes characteristics of the people traveling, their household, and their vehicles. For example, between 1969 and 2001, that data showed a dramatic decline in the percentage of students who walked or biked to school.

<http://nhts.ornl.gov/>

National Survey of Pedestrian and Bicyclist Attitudes and Behaviors

The National Survey of Pedestrian and Bicyclist Attitudes and Behaviors provides a detailed analysis of behaviors and attitudes on various topics related to walking and bicycling, including reported frequency of walking and bicycling during the summer months, trip purpose and characteristics, perceptions of safety, safety practices, facilities available, and community design. In 2012, the survey showed that one-third of those surveyed would like to see improvements in the way their local community is designed for walking.

<http://www.nhtsa.gov/nti/811841>



References



Not-in-Traffic Surveillance (NiTS)

The Not-in-Traffic Surveillance (NiTS) Study was published by NHTSA in January 2011. It provides counts and details regarding fatalities and injuries that occur in non-traffic crashes and in non-crash incidents. For example, the most common types of non-crash injuries seen in emergency departments were injuries sustained while entering or exiting a vehicle, injuries from closing doors, and injuries from overexertion, such as unloading cargo or pushing a disabled vehicle.

<http://www-nrd.nhtsa.dot.gov/Pubs/NCCF08.pdf>

Exposure data can provide data needed for a realistic analysis. Sometimes there may not be enough crash data available; however, you need to have enough data to produce a realistic analysis of the problem. You should do a minimum of a 5-year data trend to overcome challenges with pedestrian and bicycle data, localities, States and national data.

National Automotive Sampling System–General Estimate System (NASS-GES) is published annually.

Web-Based Injury Statistics Query and Reporting System (WISQARS) is an interactive database system that provides customized reports on injury-related data. It was created by the National Center for Injury Prevention and Control. Program managers can look at unintentional motor vehicle fatalities and injuries to pedestrian and bicyclists.

There are several national surveys conducted by NHTSA that provide useful data on attitudes and behaviors. Subjects of the surveys include drinking and driving, distracted and drowsy driving, and speeding and unsafe driving. These types of behaviors are not only a risk to other motorists but also to the safety of pedestrians and bicyclists.

Youth Risk Behavior Surveillance Survey (YRBSS) is a biennial school-based, health behavior survey that includes questions on seat belt use, bicycle helmet use, and riding with a driver who had been drinking.

http://www.cdc.gov/healthyyouth/yrbs/pdf/questionnaire/2015_xjh_questionnaire.pdf



References



Florida Traffic Safety Portal:

<https://fdotewp1.dot.state.fl.us/TrafficSafetyWebPortal/>

Roadway Characteristics Inventory

http://www.fdot.gov/planning/statistics/rci/RCIFC_Handbook.pdf

Strava

<https://www.strava.com>

Strava Global Heat Maps

<http://labs.strava.com/heatmap/#6/-94.60327/31.25977/blue/bike>

Strava Metro

<http://metro.strava.com>

Questions





Next FDOT Webinars

The tentative schedule as of 7/1/2016 is:

- Thursday, November 17th, 2016 - Commercial Vehicle Enforcement
- Thursday, December 15th, 2016 - Legal and Insurance Perspective on Crash Data
- Thursday, January 26th, 2017 - The Importance of Crash Data and Statistics
- Thursday, February 23rd, 2017 - Crash Typing

(dates and topics subject to change)

Please contact Benjamin Jacobs at Benjamin.Jacobs@dot.state.fl.us with any questions or comments.



Next FDOT Webinars

Register now!

<https://attendee.gotowebinar.com/register/8578031654679345411>

The webinars generally occur on the last Thursday of the month from 2:30 pm to 3:30 pm ET.

For more information, including links to past webinars, please visit our website at: <http://www.dot.state.fl.us/safety/11A-SafetyEngineering/crash%20data%20academy/academy.shtm>



Further questions?

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